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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/725,760 | 12/01/2003 | Gwang Ho Hur | 4608-4000 | 3280 |
| 27123 | 7590 | 09/23/2005 | EXAMINER | |
| MORGAN & FINNEGAN, L.L.P. 3 WORLD FINANCIAL CENTER NEW YORK, NY 10281-2101 | | | MACARTHUR, SYLVIA | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1763 | |

DATE MAILED: 09/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/725,760

Applicant(s)

HUR ET AL.

Examiner

Sylvia R. MacArthur

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 01 December 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>12/1/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Double Patenting

1. Claims 1-7 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-21 of copending Application No. 10/978,797. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the present invention are broader and thus encompass the limitations of the pending application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-3 are rejected under 35 U.S.C. 102(e) as being anticipated by Shang et al (US 6,676,761).

Regarding claim 1: Shang et al teaches a support plate 138 wherein glass substrates are horizontally supported having a plurality of vertical through holes 128 and lift pins 150, note the shape of the pins and the openings are reversed cones.

Regarding claims 2 and 3: The lift pins and plate are made of the same material, specifically aluminum (a known metal), see col. 4 lines 1-62.

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4. Claims 1 and 2 are rejected under 35 U.S.C. 102(e) as being anticipated by Arai (US 2003/0075109).

Arai teaches a support plate 128 wherein substrates are horizontally supported having a plurality of vertical through holes 12b and lift pins 13, note the shape of the pins and the openings are reversed cones.

Regarding claims 2 and 3: The lift pins and plate are made of the same material, specifically SiC film, see [0023 and 0024].

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arai in view of Huang et al (US 6,597,964).

The teachings of Arai were discussed above.

Regarding claims 4-6 Arai fails to teach the pins are electrically connected to the plate.

Huang et al teaches a thermocoupled lift pin system wherein the plate and pins are connected to suitable wiring 37, see col. 4 lines 1-35. The motivation to provide an electrical connection between the pins and plate is to measure the temperature of the supported substrate, see col. 3 lines 40-44.

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Thus, it would have been obvious for one of ordinary skill in the art at the time of the claimed invention to provide an electrical connection between the pins and plate and enhance the functionality of the support to one of process control.

Regarding claim 5: This is a product by process limitation and does not require further structural limitation. The apparatus of Arai modified by Huang et al inherently capable of having a portion of the insulation material around the exterior of the plate removed to accommodate the electrical connection of the pins with the plate.

Regarding claim 7: Arai fails to teach pins in the center of the substrate.

Huang et al illustrates pin 35 supporting the central portion of the substrate. The motivation to modify the support of Arai to include a center pin is to improve wafer support and prevent bowing of the substrate during movement and/or processing.

Thus, it would have been obvious for one of ordinary skill in the art at the time of the claimed invention to modify the support of Arai to include a center pin.

Conclusion

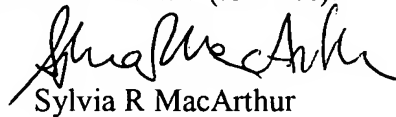
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sylvia R. MacArthur whose telephone number is 571-272-1438.

The examiner can normally be reached on M-F during the core hours of 9 a.m. and 3 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on 571-272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Sylvia R MacArthur
Patent Examiner
Art Unit 1763

September 19, 2005